## Claims

What is claimed is:

1. A prismatic battery module comprising:

a prismatic battery case having a plurality of prismatic cell cases connected to one another through separation walls;

an electroconductive connector forming at least part of the separation wall arranged between the cell cases;

an electrode plate group arranged in each of the plurality of cell cases, the electrode plate group including positive electrode plates, negative electrode plates, and separators interposed therebetween, and further forming lead portions by projecting one side portion of the positive electrode plates and one side portion of the negative electrode plates in opposite directions, respectively; and

an electrolyte accommodated in each of the cell cases,

wherein the positive electrode plates and the negative electrode plates are connected to the respective electroconductive connectors arranged on both sides of each cell case.

2. The prismatic battery module according to claim 1, wherein the electroconductive connector comprises a planar connector plate being integrally formed with the prismatic battery case, and the lead portion of each of the electrode plates is connected to the connector plate.

3. The prismatic battery module according to claim 2,

wherein the connector plate has a thickness increasing from top to bottom of the cell case.

4. The prismatic battery module according to claim 2, further comprising a support pin arranged on either side of the electrode plate group through the lead portions of the electrode plates, and a vertical slot formed in either side wall of the cell case to receive each end of the support pin, wherein ends of the lead portions are resiliently pressed against the connector plate, and a force exerted by the lead portions is borne by the vertical slot via the support pin.

5. The prismatic battery module according to claim 4, wherein the lead portions are welded to the connector plate by applying a welding current between the support pins arranged on both sides of the connector plate.

6. The prismatic battery module according to claim 1, wherein the electroconductive connector comprises a crank-shaped connector plate including a connection surface in a middle portion thereof, the connection surface extending in a direction in which the cell cases are arranged in a row, wherein the lead portions of the electrode plates of the adjacent electrode plate groups each include an extension to allow a stack of the lead portions to be formed and welded to an adjacent stack of the lead portions of the adjacent electrode plate group in such a manner that one of the stacks of the lead portions is stacked on top of the other with the

connection surface interposed between the stacks of the lead portions.

7. The prismatic battery module according to claim 1, wherein the electroconductive connector comprises a planar connector plate, and one or more of cutouts are formed in the electrode plates of the electrode plate groups adjacent to one another on sides facing the planar connector plate, and intersecting points between both ends of the side edges of the electrode plates and the connector plate and between corners of the cutouts and the connector plate are welded to connect the electrode plates to the connector plate, wherein a sealing material is arranged over a periphery of the connector plate to provide sealing between the connector plate and an inner surface of the prismatic battery case, thereby sealing the cell cases from one another.

8. The prismatic battery module according to claim 1, wherein the electroconductive connector comprises a corrugated connector plate, and the lead portions of the electrode plates are inserted into respective troughs of corrugation to connect the electrode plates to the corrugated connector plate.

9. The prismatic battery module according to claim 8, wherein the corrugation is compressed following insertion of the lead portions into the respective troughs, to connect the electrode plates to the corrugated connector plate.

10. The prismatic battery module according to claim 8,

wherein the lead portions of the electrode plates are connected to the corrugated connector plate by allowing the lead portions and the connector plate to press against each other.

11. The prismatic battery module according to claim 10, wherein the lead portions of the electrode plates are held in contact with the corrugated connector plate by allowing both ends of the corrugated connector plate to press against the inner wall of the prismatic battery case and utilizing resulting force to keep the corrugated connector plate in contact with the lead portions of the electrode plates.

12. The prismatic battery module according to claim 8, wherein the corrugated connector plate includes a bent.

13. The prismatic battery module according to claim 8, wherein the corrugated connector plate includes a ridge.

14. The prismatic battery module according to claim 8, wherein either or both of the troughs and the lead portions of the electrode plates includes a coarse plating applied to surfaces thereof.

15. The prismatic battery module according to claim 8, wherein an electroconductive soft material is interposed between surfaces of the troughs and the respective lead portions of the electrode plates.

16. The prismatic battery module according to claim 8, wherein the lead portions of the electrode plates of the

electrode plate group are inserted into the troughs of the corrugated connector plate and are welded to the corrugated connector plate on top and bottom ends thereof.

17. The prismatic battery module according to claim 16, wherein welding is performed by vertically irradiating an electron beam or laser light at both ends of the corrugated connector plate.

18. The prismatic battery module according to claim 16, wherein an electron beam or laser light is irradiated horizontally from both sides of the corrugated connector plate, along directions leading from the electrode plate groups toward the connector plate, to connect ends of the corrugated connector plate with the respective ends of the lead portions of the electrode plates.

19. The prismatic battery module according to claim 8, wherein an electron beam or laser light is irradiated onto the corrugated connector plate in a direction along which the electrode plates are stacked in the electrode plate group to penetrate into the connector plate thereby welding the corrugated connector plate to the lead portions of the electrode plates.

20. The prismatic battery module according to claim 19, wherein the lead portions are welded to the corrugated connector plate at longitudinally spaced-apart positions, welds being provided in individual weld groups such that the

welds are formed in welding ranges that are different from one weld group to another, the welding ranges defined in a direction along which the electrode plates are stacked in the electrode plate group, while a plurality of cutouts are formed both on the corrugated connector plate and on each electrode plate in order to allow the electron beam or laser light to proceed without being interrupted outside the welding ranges, in each of the weld groups.

21. The prismatic battery module according to claim 8, wherein at least a part of the periphery of the corrugated connection plate is placed in a slot formed in a side wall of the prismatic battery case at a position that corresponds to the separation wall arranged between the cell cases, with a sealing material being applied thereto to provide sealing.

22. The prismatic battery module according to claim 8, wherein a slot is formed on a bottom surface of the prismatic battery case to receive one end of the corrugated connector plate and is filled with a sealing material, such that the end of the corrugated connector plate is placed in the sealing material in the slot to provide sealing.

23. The prismatic battery module according to claim 8, wherein a vertical sealing wall is formed in a lid for closing an upper opening of the prismatic battery case at a position opposite to the corrugated connector plate and, when the prismatic battery case is joined to the lid, a lower end of

the sealing wall is heat-melted and pressed against an upper end of the corrugated connector plate to provide sealing.

24. The prismatic battery module according to claim 8, wherein a seal rubber is fixedly baked to the corrugated connector plate over at least part of its periphery, and the periphery of the seal rubber is pressed against an inner wall of the prismatic battery case to seal the cell cases from one another.

25. The prismatic battery module according to claim 24, wherein the corrugated connector plate is compressed to bring each corrugation into contact with each other at a top end and at a bottom end thereof that are outside a region of the corrugated connector plate that has the lead portions inserted thereinto, and the seal rubber is fixedly baked to cover the compressed portions.

26. The prismatic battery module according to claim 8, wherein a resilient seal portion is formed on either side of the corrugated connector plate, the resilient seal portion having a resilience and tends to expand outward.

27. The prismatic battery module according to claim 26, wherein the resilient seal portion has a width that has the largest value at its center in a vertical direction and gradually decreases toward top and bottom ends thereof.

28. The prismatic battery module according to claim 26, wherein the resilient seal portion has a cross-section with

its width decreasing toward the edge thereof.

29. The prismatic battery module according to claim 26, wherein the resilient seal portion comprises a rubber piece fixedly baked to the corrugated connector plate at either side edge thereof.

30. The prismatic battery module according to claim 26, wherein the resilient seal portion comprises a metal plate, which is integrally formed with the corrugated connector plate or secured to the corrugated connector plate on either edge, and a rubber fixedly baked to an edge of the metal plate.

31. The prismatic battery module according to claim 1, wherein the lead portions of the electrode plates include projections, the projections being joined together to form a raised portion, and an electroconductive connector is integrally formed with a separation wall separating the cell cases from one another, the electroconductive connector having a connection surface that comes into contact with a side of the raised portion of the lead portions, wherein the raised portion of the lead portions is brought into contact with the electroconductive connector.

32. The prismatic battery module according to claim 31, wherein the pair of the connection surfaces are exposed in the cell cases on both sides of the electroconductive connector and are formed as a pair of tapered connection surfaces that come close to one another in a tapered fashion as they extend

upward, while the raised portion of the lead portions includes an end surface that is formed as a sloped surface to come in surface contact with each of the tapered connection surfaces.

33. A method for manufacturing a prismatic battery module comprising the steps of:

connecting a plurality of prismatic cell cases with each other through separation walls, at least part of which is formed of an electroconductive connector, thereby form a prismatic battery case;

forming an electrode plate group having lead portions of positive and negative electrode plates by projecting one side portion of the positive electrode plates and one side portion of the negative electrode plates in opposite directions;

placing the electrode plate group in each of the cell cases to connect the lead portions on either side of the electrode plate group to the respective electroconductive connectors arranged on both sides of the cell case;

placing an electrolyte in the cell cases; and

closing an opening of each cell case with a lid.

34. A method for manufacturing a prismatic battery module comprising the steps of:

forming a prismatic battery case having a space in which a plurality of cell cases are to be formed in a row;

forming an electrode plate group having lead portions of positive and negative electrode plates projecting on either

side thereof;

connecting the lead portions of the positive and the negative electrode plates of the electrode plate groups with each other through electroconductive connector plates;

placing the plurality of electrode plate groups, which are connected with each other through the electroconductive connector plates, in the prismatic battery case and providing sealing between peripheral edges of the electroconductive connector plates and an inner surface of the prismatic battery case;

placing an electrolyte in the cell cases defined by the electroconductive connector plates; and

closing an opening of each cell case with a lid.